

IN THE CLAIMS:

1-8. (Now Cancelled)

9. (Presently Amended) ~~Use according to Claim 8, characterized in that the minerals are essentially carbonate-free laminated double hydroxides which contain~~
A layered double hydroxide (LDH) according to claim 20, exchangeably bound anions in the intermediate layers and which can be represented by the following formula:-



in which

M^{II} is a bivalent metal ion such as Ca, Mg, Fe, Ni, Zn, Co, Cu, Mn, or 2 Li, preferably Ca, Mg or Fe;

M^{III} is a trivalent metal ion, preferably Al, Fe, Cr or Mn,

A^{n-} is an n-valent anion bound in the intermediate layer, such as nitrate, sulfate, chloride or hydroxide.

10. (Presently Amended) ~~Use according to one of Claims 7 to 9, characterized in that when the natural or synthetic material is produced it~~ The LDH of claim 9, wherein the LDH contains up to about 30% by weight, and preferably not less than 5% by weight, nitrate ions.

11. (Presently Amended) ~~Use according to one of Claims 7 to 10, characterized in that it is used~~ A mixture comprising an LDH according to claim 9 in combination with auxiliary materials and additives.

12. (Presently Amended) ~~Use according to one of Claims 7 to 11, characterized in that~~ A mixture comprising an LDH according to claim 9 to which is added an ordinary mixed fertilizer and optionally other fertilizer additives, are added to the mineral.

13. (Presently Amended) ~~Use according to one of Claims 7 to 12,~~
~~characterized in that the mineral is used in a~~ A preparation comprising an LDH
~~according to claim 9, with at least one selected from seeds, seedlings, or~~
 propagation material.

14. (Presently Amended) ~~Use~~ A preparation according to Claim 13,
 characterized in that the propagation material, seeds, or seedlings in the
 preparation are coated with the ~~mineral~~ LDH and optionally with other additives.

15. (Presently Amended) ~~Use~~ A preparation according to ~~one of Claims 7~~
~~to 14, characterized in that the mineral occurs in the preparation wherein the LDH~~
~~is present in liquid form, such as an emulsion, gel or paste, or in solid form, such~~
~~as a powder, granulation or prills.~~

16-17. (Now cancelled)

18. (Presently Amended) ~~Use according to Claim 17, characterized in that~~
~~the minerals are in~~ The LDH of claim 9, wherein the LDH is essentially carbonate-
 free laminate double hydroxides (LDHs) which contain exchangeably bound
 anions in the intermediate layers and which can be represented by the following
 formula:-



in which

~~M^{II} is a bivalent~~ the divalent metal ion ~~such as is~~ is Ca, Mg, Fe, Ni, Zn, Co,
 Cu, or Mn, ~~or 2 Li, preferably Ca, Mg or Fe,~~

~~M^{III} is a~~ the trivalent metal ion, ~~preferably is~~ is Al, Fe, Cr or Mn,

~~A^{II} is an~~ the anion bound in the intermediate layer, ~~such as is~~ is sulfate, or
 hydroxide, ~~and preferably chloride or nitrate.~~

19. (New) The LDH of claim 15, wherein the solid form is a granulate, a
 powder or a prill.

20. (New) An LDH comprising
 at least one intermediate layer, and
 M^{II} surrounded by OH^- , with replacement of the bivalent metal ions by M^{III}
 producing an excess of positive charge, balanced by anions A^{n-} in the intermediate
 layer, wherein
 M^{II} denotes a divalent metal ion or 2 Li, and
 M^{III} denotes a trivalent metal ion.

21. (New) The LDH of claim 20, wherein the LDH is essentially
 carbonate-free, and in which
 the divalent metal ion is Ca, Mg, Fe, Ni, Zn, Co, Cu or Mn;
 the trivalent metal ion is Al, Fe, Cr or Mn;
 the anion is sulfate, hydroxide or chloride.

22. (New) A method of nitrate removal in purification of water followed
 by a method of uniform supplying arable land with nitrogen in form of nitrate,
 comprising the steps of
 contacting the water with layered double hydroxides (LDHs) that
 reversibly exchange nitrate wherein the LDHs comprise at least one intermediate
 layer, and
 M^{II} surrounded by OH^- , with replacement of the bivalent metal ions by M^{III}
 producing an excess of positive charge, balanced by anions A^{n-} in the intermediate
 layer, wherein
 M^{II} denotes a divalent metal ion or 2 Li,
 M^{III} denotes a trivalent metal ion,
 A^{n-} denotes an anion bound in the intermediate layer;
 and
 applying the LDHs that reversibly exchange nitrate as fertilizer and soil
 conditioner for the uniform supplying of arable land with nitrogen in the form of
 nitrate,
 wherein both the contacting and applying steps are performed using the
 same LDHs.

23. (New) A composition comprising layered double hydroxides (LDHs) according to claim 20, wherein the LDHs contain anions exchangeably bound in intermediate layers.

24. (New) The composition of claim 23, wherein the LDHs are substantially carbonate-free, and in which

the divalent metal ion is Ca, Mg, Fe, Ni, Zn, Co, Cu or Mn;

the trivalent metal ion is Al, Fe, Cr or Mn;

the anion is sulfate, hydroxide, chloride or nitrate.

25. (New) The LDH of claim 20, wherein A^{n-} is nitrate.

26. (New) The LDH of claim 20, wherein A^{n-} is sulfate.

27. (New) The LDH of claim 20, wherein A^{n-} is chloride.

28. (New) The LDH of claim 20, wherein A^{n-} is hydroxide.